

Further Amendment After Final Action
Submitted on 03/23/2005

1. (Previously Presented) A process for decontamination of microlithographic projection exposure devices with UV light and a fluid, the microlithographic projection exposure devices having optical elements, and at least some of said optical elements being cleanable, the microlithographic projection exposure device having a first UV light source for projection exposure, comprising directing a second UV light source onto at least a portion of said optical elements in intervals between exposures by said first UV light source.
2. (Original) The process according to claim 1, comprising employing a relatively broad-band light source with a bandwidth of about 500 nm as said second UV light source.
3. (Original) The process according to claim 1, further comprising producing a flow of said fluid directed parallel to said surfaces of optical elements to be cleaned.
4. (Original) The process according to claim 3, further comprising branching off said fluid from a normal operation flushing gas supply.
5. (Original) The process according to claim 3, further comprising introducing said fluid by deflecting a fluid stream from fluid flow running parallel to an optical axis during a projection exposure operation.
6. (Cancelled)
7. (Original) The process according to claim 3, further comprising employing fluids with different densities alternately for flushing.
8. (Original) The process according to claim 4, further comprising producing a supply of flushing fluid from a normal operation fluid supply by increasing said supply and transition from a laminar flow into a turbulent flow.

Gerhard (Z) 98027 P US US Patent Application 09/754,841
Submission Subsequent to March 10, 2005 Advisory Action
Submitted by facsimile on March 23, 2005

2

Further Amendment After Final Action
Submitted on 03/23/2005

9. (Original) Process according to claim 3, wherein the fluid comprises ozonic gas.
10. (Original) Process according to claim 3, wherein the fluid comprises oxygen gas.
11. (Original) A microlithographic projection exposure device comprising:
 - a first UV light source for the projection exposure, wherein said first light source comprises a DUV excimer laser,
 - at least a second UV light source for decontamination of optical elements that is switched in alternatively in intervals between exposures by said first UV light source, by which at least a portion of said optical elements is illuminated.
12. (Previously Presented) The microlithographic projection exposure device according to claim 11, comprising at least one gas supply device for supply of flushing gas when said second UV light source is switched in.
13. (Previously Presented) The microlithographic projection exposure device according to claim 12, further comprising radial flushing openings arranged radially of an optical axis in said gas supply device for supply of flushing gas, wherein a directed flow over surfaces of optical elements to be cleaned is produced by said radial flushing openings.
14. (Previously Presented) The microlithographic projection exposure device according to claim 12, further comprising a gas supply device for normal operation provided as said gas supply device, a gas flow directed parallel to said optical axis being deflected in a direction toward surfaces of optical elements to be cleaned.
15. (Previously Presented) The microlithographic projection exposure device according to claim 14, further comprising mechanical vanes, pivotable or foldable for deflection, for gas flow diversion.

Gerhard (Z) 98027 P US US Patent Application 09/754,841
Submission Subsequent to March 10, 2005 Advisory Action
Submitted by facsimile on March 23, 2005

3

Further Amendment After Final Action
Submitted on 03/23/2005

16. (Cancelled)

17. (Previously Presented) The microlithographic projection exposure device according to claim 14, further comprising a device for increasing gas flow for said flushing operation.

18. (Previously Presented) The microlithographic projection exposure device according to claim 11, wherein said gas supply device contains an ozone source.

19. (Previously Presented) The microlithographic projection exposure device according to claim 18, wherein said second UV light source is arranged in a focus of an ellipsoidal reflector, a light guide being arranged in another focus.

20. (Previously Presented) The microlithographic projection exposure device according to claim 11, wherein said optical element comprises a rod-shaped light guide, arranged within a reflector together with said second UV light source.

21. (Previously Presented) A process of a microlithographic projection exposure device comprising operating said projection exposure device comprising a plurality of optical elements with a first ultraviolet light source and effecting exposure, and

at intervals between exposing,

a cleaning operation comprising applying

a fluid and directing light from a second ultraviolet light source onto at least a portion of said plurality of optical elements.

22. (Previously Presented) A process according to claim 21, wherein said optical elements comprise surfaces,

and the cleaning operation acting upon said surfaces.

Further Amendment After Final Action
Submitted on 03/23/2005

23. (Previously Presented) A process according to claim 21, wherein said optical elements subject to said cleaning operation comprises lenses.

Gerhard (Z) 98027 P US US Patent Application 09/754,841
Submission Subsequent to March 10, 2005 Advisory Action
Submitted by facsimile on March 23, 2005

5